



Series 6000 ASME Section I and VIII, Steam, 'V' and 'UV', ASME Section VIII, Air/Gas 'UV' National Board Certified.

Features and Benefits

- O-ring seats available for exceptional leak-free performance, reduced maintenance cost, multiple cycles with tight shutoff, improved seating integrity.
- Wide hex on valve nozzle provides wrenching service clearance for easy installation.
- Dual control rings offer easy adjustability for precise opening with minimum preopen or simmer and exact blowdown control.
- Ball bearing pivot between disc and spring corrects misalignment and compensates for spring side thrust.
- Grooved piston model disc reduces sliding area and friction.

Applications

- Steam Boilers and Generators.
- Air/Gas Compressors - reciprocating or rotary - portable or stationary, intercoolers and aftercoolers.
- Pressure Vessels - containing steam, air or non-hazardous gas. Including tanks, receivers, sterilizers and autoclaves.
- Pressure Reducing Stations - protection of the discharge or low pressure side of system.

Pressure and Temperature Limits

• Models 6010, 6021, 6182, 6283, 6221

Section I Steam

15 to 250 psig [1.0 to 17.2 barg]
-60° to 406°F [-51° to 208°C]

• Non-code and Section VIII Steam Air/Gas

3 to 250 psig [0.2 to 17.2 barg]
-60° to 406°F [-51° to 208°C]

• Models 6030, 6130, 6230 Section I Steam

15 to 300 psig [1.0 to 20.7 barg]
-60° to 425°F [-51° to 208°C]

• Non-code and Section VIII Steam Air/Gas

3 to 300 psig [0.2 to 20.7 barg]
-60° to 425°F [-51° to 218°C]

Model Descriptions

Model 6010: Side outlet. Full nozzle design with bronze/brass trim. Available with O-ring seats. For exceptional leakfree performance.

Model 6021: Same as Model 6010 with Teflon® (PFA) disc insert. For exceptional leak-free performance (use on steam only).

Model 6030: Same as Model 6010 except SS trim (nozzle and disc). Available with O-ring seats for exceptional leak-free performance. differential pressure is required for tight closure, and 7 psi when a softseat is fitted



Model 6010

Model 6182: Top outlet. Full nozzle design with bronze/brass trim. O-ring seat available for exceptional leak-free performance.

Model 6121: Same as Model 6182 with Teflon® (PFA) disc insert. For exceptional non-leak performance (use on steam only).

Model 6130: Same as Model 6182 except SS trim (nozzle and disc). O-ring seat available for exceptional leak-free performance.

Model 6186: Top outlet. Full nozzle design with bronze/brass trim. 150 psig [10.3 barg] maximum set pressure. Replaces Model 86 (original equipment only).

Model 6283: Side outlet. Full nozzle design bronze/brass trim.

Model 6221: Same as Model 6283 with Teflon® (PFA) disc insert. For exceptional leak-free performance (use on steam only).

Model 6230: Same as Model 6283 except SS trim (nozzle and disc).

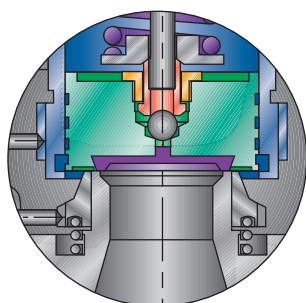
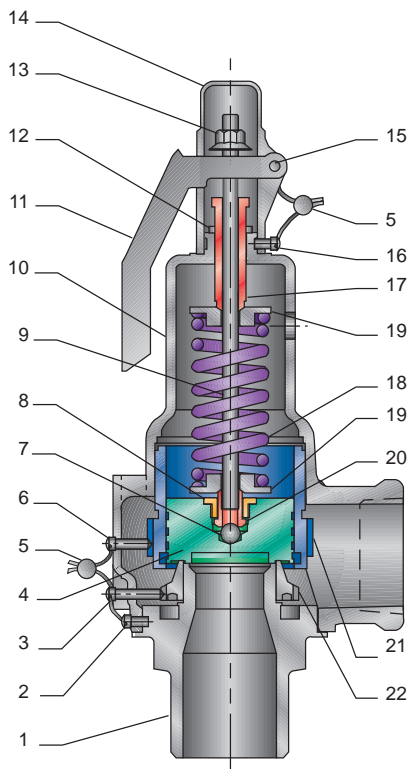
Model 6933: Same as Model 6010 except certified for ASME code Section IV. Low pressure steam heating boilers set at 15 psig [1.0 barg] only.

Model 6934: Same as Model 6021 except certified for ASME code Section IV. Low pressure steam heating boilers set at 15 psig [1.0 barg] only.

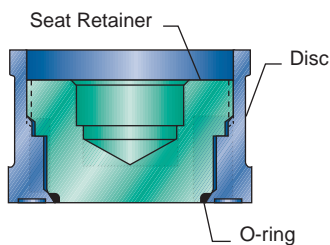
Model 6935: Same as Model 6030 except certified for ASME code Section IV. Low pressure steam heating boilers set at 15 psig [1.0 barg] only.

Note: resilient seats determine temperature range.

Series 6000 and Models 6933-6935 ASME Section I and VIII,
Steam, ASME Section VIII, Air/Gas, National Board Certified



Models 6021, 6121, 6221



Model 6010V (Optional Soft Seat)

Parts and Materials - Models 6010, 6021, 6030, 6221, 6230, 6283, 6933, 6934, 6935

No.	Part Name	Materials 6010, 6021, 6221, 6283, 6933, 6934	Materials 6030, 6230, 6935
1	Nozzle	Bronze	SS
2	Body Set Screw	SS	SS
3	Warn Ring Set Screw	SS	SS
4	Disc	B21 Alloy 485,	SS
5	Wire and Seal	SS Wire and Lead seal	SS/Lead
6	Guide Set Screw	SS	SS
7	Ball	SS, A756-440C	SS
8	Retainer Nut	Brass, B16	Brass
9	Stem	SS, A582-416	SS
10	Body	Bronze	Bronze
11	Lever	Steel	Steel
12	Jam Nut	Brass, B16	Brass
13	Lift Nut	Steel	Steel
14	Cap	Brass	Brass
15	Lever Pin	Steel	Steel
16	Cap Set Screw	SS, Commercial 18-8	SS
17	Compression Screw	Brass, B16	Brass
18	Spring	SS	SS
19	Spring Step	Brass, B16	Brass
20	Stem Retainer	Brass, B16	Brass
21	Guide	Brass/Bronze	Brass/Bronze
22	Warn Ring	Brass/Bronze	Brass/Bronze
23	Seat ¹	1, 2	1, 2

Note

- Models 6021, 6121, 6221 and 6934
Teflon®, optional O-ring seat available for
all others except Models 6933 and 6935.

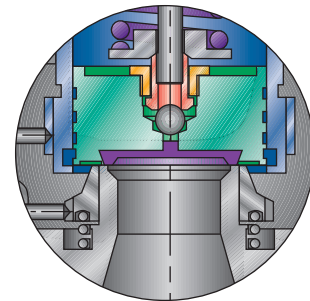
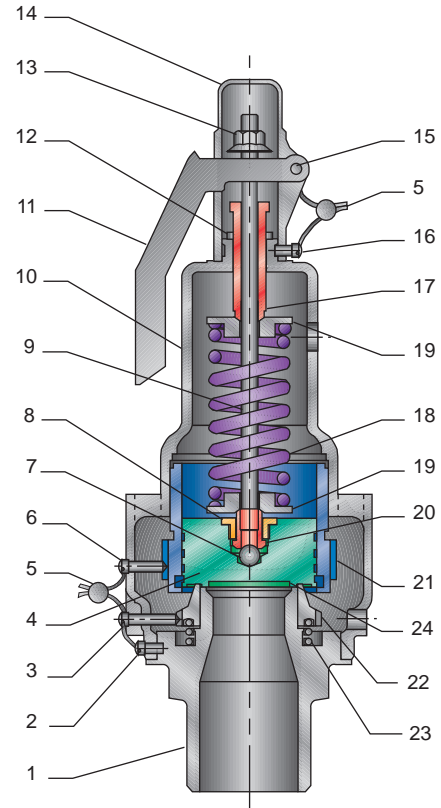
Series 6000 ASME Section I and VIII, Steam, ASME Section VIII,
Air/Gas, National Board Certified

Parts and Materials - Models 6121, 6130, 6182, 6186

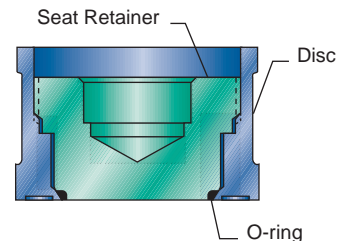
No.	Part Name	6121, 6182, 6186	6130
1	Nozzle	Bronze	SS
2	Body Screw	Steel	Steel
3	Warn Ring Set Screw	Steel	Steel
4	Disc	Brass, B21 Alloy 485	SS
5	Wire and Seal	SS Wire and Lead seal	SS Wire and Lead seal
6	Guide Set Screw	Steel	Steel
7	Ball	SS	SS
8	Retainer Nut	Brass, B16	Brass, B16
9	Stem	SS	SS
10	Body	Bronze, B584 Alloy 84400	Bronze, B584 Alloy 84400
11	Lever	Steel	Steel
12	Jam Nut	Brass	Brass
13	Lift Nut	Steel	Steel
14	Cap	Brass	Brass
15	Rivet	Steel	Steel
16	Cap Screw	Steel	Steel
17	Compression Screw	Brass	Brass
18	Spring	SS, A313-631	SS, A313-631
19	Spring Step	Brass, B16	Brass, B16
20	Stem Retainer	Brass, B16	Brass, B16
21	Guide	Brass/Bronze	Brass/Bronze
22	Warn Ring	Brass/Bronze	Brass/Bronze
23	Warn Ring Spring ¹	SS	SS
24	Seat ²	2	2

Notes

- Item 23 available as an option.
- Item 24 is Teflon® for Model 6121. Optional Viton® O-ring seat available on Models 6182, 6186, and 6130.



Model 6121



Model 6010V (Optional Soft Seat)

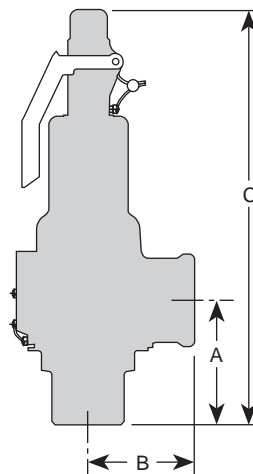
Series 6000 and Models 6933-6935 ASME Section I and VIII, Steam, ASME Section VIII, Air/Gas
National Board Certified. Models 6933-6935 is ASME Section IV, 'Steam,' National Board Certified

Specifications

Model Number ¹	Orifice	Connections ANSI Standard		Valve Dimensions in [mm]						Approximate Weight	
		Inlet in [mm]	Outlet in [mm]	A		B		C		lb	[kg]
60**DC#	D	1/2" [12.7]	3/4" [19.0]	2 1/8	[54]	1 5/8	[41]	6 1/2	[165]	1 1/2	[0.7]
60**DD#	D	3/4" [19.0]	3/4" [19.0]	2 1/8	[54]	1 5/8	[41]	6 1/2	[165]	1 3/4	[0.8]
61**DC#	D	1/2" [12.7]	—	—	—	—	—	6 1/2	[165]	1 1/4	[0.6]
60**ED#	E	3/4" [19.0]	1" [25.4]	2 3/8	[60]	1 3/4	[44]	7 1/2	[191]	2 1/2	[1.1]
60**EE#	E	1" [25.4]	1" [25.4]	2 1/2	[64]	1 3/4	[44]	7 5/8	[194]	2 3/4	[1.2]
61**ED#	E	3/4" [19.0]	—	—	—	—	—	7 1/2	[191]	2 1/4	[1.0]
62**ED#	E	3/4" [19.0]	1 1/4" [31.75]	2 7/8	[73]	1 3/4	[44]	7 1/2	[191]	2 3/4	[1.2]
60**FE#	F	1" [25.4]	1 1/4" [31.8]	2 5/8	[67]	2	[51]	8 1/2	[216]	3 1/2	[1.6]
60**FF#	F	1 1/4" [31.8]	1 1/4" [31.8]	2 7/8	[73]	2	[51]	8 3/4	[222]	3 3/4	[1.7]
61**FE#	F	1" [25.4]	—	—	—	—	—	8 1/2	[222]	3 1/4	[1.5]
62**FE#	F	1" [25.4]	1 1/2" [38.0]	2 7/8	[73]	2	[51]	8 1/2	[222]	3 3/4	[1.7]
60**GF#	G	1 1/4" [31.8]	1 1/2" [38.0]	3 1/8	[79]	2 3/8	[60]	9 5/8	[244]	5 1/2	[2.5]
60**GG#	G	1 1/2" [38.0]	1 1/2" [38.0]	3 3/8	[86]	2 3/8	[60]	10	[254]	5 3/4	[2.6]
61**GF#	G	1 1/4" [31.8]	—	—	—	—	—	9 5/8	[244]	5	[2.3]
62**GF#	G	1 1/4" [31.8]	2" [51.0]	3 3/8	[86]	2 1/4	[57]	9 5/8	[244]	5 3/4	[2.6]
60**HG#	H	1 1/2" [38.0]	2" [51.0]	3 5/8	[92]	2 3/4	[70]	10 5/8	[270]	7 3/4	[3.5]
60**HH#	H	2" [51.0]	2" [51.0]	4 1/8	[105]	2 3/4	[70]	11 1/8	[283]	8	[3.6]
61**HG#	H	1 1/2" [38.0]	—	—	—	—	—	10 5/8	[270]	7 1/4	[3.3]
62**HG#	H	1 1/2" [38.0]	2 1/2" [64.0]	3 7/8	[98]	3	[76]	10 5/8	[270]	8	[3.6]
60**JH#	J	2" [51.0]	2 1/2" [64.0]	4 1/4	[108]	3 3/8	[86]	13 5/8	[346]	15 1/2	[7.0]
60**JJ#	J	2 1/2" [64.0]	2 1/2" [64.0]	4 1/2	[114]	3 3/8	[86]	14	[356]	15 3/4	[7.2]
61**JH#	J	2" [51.0]	—	—	—	—	—	13 5/8	[346]	15	[6.8]
62**JH#	J	2" [51.0]	3" [76.0]	4 5/8	[117]	3 3/8	[86]	13 5/8	[345]	15 1/2	[7.0]

Notes

1. Replace asterisks with desired model number. Replace # with desired seat material.
2. Model 6030 available only 1/2 x 3/4-inch [12.7 x 19 mm], 3/4 x 1-inch [19 x 25.4 mm], 1 x 1 1/4-inch [25.4 x 31.8 mm], 1 1/4 x 1 1/2-inch [31.8 x 38 mm], 1 1/2 x 2-inch [38 x 51 mm] and 2 x 2 1/2-inch [51 x 64 mm].
3. Models 933, 934 and 935 have same dimensions as Model 6010.



Series 6000

Note

1. No code stamp or 'NB' on nameplate below 1.0 barg set.

Non-code¹ and ASME Section VIII Air [Metric, Nm³/h]

Set Pressure [barg]	Orifice Area, cm ²					
	D [0.781]	E [1.394]	F [2.180]	G [3.574]	H [5.567]	J [9.123]
0.2	45	81	126	207	322	528
0.3	55	98	154	252	393	644
0.4	63	113	177	290	452	740
0.6	77	138	215	353	549	900
1.0	104	180	281	461	718	1177
1.5	123	220	345	565	880	1443
2.0	146	261	408	669	1042	1708
2.5	171	305	477	782	1218	1996
3.0	196	350	547	896	1396	2288
3.5	221	394	616	1011	1574	2579
4.0	246	439	686	1125	1752	2871
4.5	271	483	756	1239	1930	3163
5.0	296	528	826	1353	2108	3455
5.5	321	572	895	1468	2286	3746
6.0	346	617	965	1582	2464	4038
6.5	371	662	1035	1696	2642	4330
7.0	396	706	1104	1811	2820	4622
7.5	421	751	1174	1925	2998	4913
8.0	446	795	1244	2039	3176	5205
8.5	471	840	1313	2153	3354	5497
9.0	496	884	1383	2268	3532	5788
9.5	521	929	1453	2382	3710	6080
10.0	545	974	1523	2496	3888	6372
10.5	570	1018	1592	2611	4066	6664
11.0	595	1063	1662	2725	4244	6955
11.5	620	1107	1732	2839	4422	7247
12.0	645	1152	1801	2953	4600	7539
12.5	670	1197	1871	3068	4778	7831
13.0	695	1241	1941	3182	4956	8122
13.5	720	1286	2011	3296	5134	8414
14.0	745	1330	2080	3411	5312	8706
14.5	770	1375	2150	3525	5490	8997
15.0	795	1419	2220	3639	5668	9289
16.0	845	1509	2359	3868	6024	9873
17.0	895	1598	2499	4096	6381	10456
18.0	945	1687	2638	4325	6737	11040
19.0	995	1776	2777	4553	7093	11623
20.0	1045	1865	2917	4782	7449	12207

Series 6000

Note

1. No code stamp or 'NB' on nameplate below 1.1 barg set.

Non-code¹ and ASME Section VIII Steam [Metric, kg/h]

Set Pressure [barg]	Orifice Area, cm ²					
	D [0.781]	E [1.394]	F [2.180]	G [3.574]	H [5.567]	J [9.123]
0.2	39	69	108	177	276	453
0.3	47	84	131	215	335	549
0.4	54	96	150	246	383	628
0.6	65	115	181	296	461	756
1.0	81	144	226	370	576	944
1.5	98	175	273	448	698	1144
2.0	116	207	324	530	826	1354
2.5	135	242	378	620	966	1582
3.0	155	277	433	711	1107	1814
3.5	175	312	489	801	1248	2045
4.0	195	348	544	892	1389	2276
4.5	215	383	599	982	1530	2508
5.0	234	419	654	1073	1671	2739
5.5	254	454	710	1164	1812	2970
6.0	274	489	765	1254	1954	3201
6.5	294	525	820	1345	2095	3433
7.0	314	560	876	1435	2236	3664
7.5	333	595	931	1526	2377	3895
8.0	353	631	986	1617	2518	4127
8.5	373	666	1041	1707	2659	4358
9.0	393	701	1097	1798	2800	4589
9.5	413	737	1152	1888	2942	4820
10.0	432	772	1207	1979	3083	5052
10.5	452	807	1262	2070	3224	5283
11.0	472	843	1318	2160	3365	5514
11.5	492	878	1373	2251	3506	5746
12.0	512	913	1428	2341	3647	5977
12.5	531	949	1483	2432	3788	6208
13.0	551	984	1539	2523	3929	6439
13.5	571	1019	1594	2613	4071	6671
14.0	591	1055	1649	2704	4212	6902
14.5	611	1090	1705	2795	4353	7133
15.0	630	1125	1760	2885	4494	7365
16.0	670	1196	1870	3066	4776	7827
17.0	710	1267	1981	3248	5059	8290
18.0	749	1337	2091	3429	5341	8752
19.0	789	1408	2202	3610	5623	9215
20.0	829	1479	2313	3791	5905	9678

Series 6000

ASME Section I Steam [Metric, kg/h]

Set Pressure [barg]	Orifice Area, cm ²					
	D [0.781]	E [1.394]	F [2.180]	G [3.574]	H [5.567]	J [9.123]
1.5	95	170	266	436	680	1114
2.0	113	202	316	519	808	1324
2.5	131	234	367	601	936	1534
3.0	149	266	417	683	1064	1744
3.5	167	299	467	765	1192	1954
4.0	185	331	517	848	1320	2164
4.5	203	363	567	930	1449	2374
5.0	222	396	619	1014	1580	2589
5.5	240	429	670	1099	1712	2806
6.0	259	462	722	1184	1844	3022
6.5	277	495	774	1269	1976	3238
7.0	296	528	826	1353	2108	3455
7.5	314	561	877	1438	2240	3671
8.0	333	594	929	1523	2372	3887
8.5	351	627	981	1608	2504	4104
9.0	370	660	1032	1692	2636	4320
9.5	388	693	1084	1777	2768	4537
10.0	407	726	1136	1862	2900	4753
10.5	425	759	1187	1947	3032	4969
11.0	444	792	1239	2031	3164	5186
11.5	462	825	1291	2116	3296	5402
12.0	481	858	1343	2201	3428	5618
12.5	499	892	1394	2286	3560	5835
13.0	518	925	1446	2371	3692	6051
13.5	537	958	1498	2455	3824	6267
14.0	555	991	1549	2540	3957	6484
14.5	574	1024	1601	2625	4089	6700
15.0	592	1057	1653	2710	4221	6917
15.5	611	1090	1704	2794	4353	7133
17.0	629	1123	1756	2879	4485	7349
17.0	666	1189	1860	3049	4749	7782
18.0	703	1255	1963	3218	5013	8215
19.0	740	1321	2066	3388	5277	8647
20.0	777	1387	2170	3557	5541	9080

Models 6933-6935 ASME Section IV, Hot Water, 'HV' National Board Certified

Steam Relieving Capacities - Models 6933, 6934, 6935, Steam Capacity, lb/h [kg/h]

Set Pressure (psig) [barg]	Orifice, Area in ² [cm ²]					
	D 0.121 [0.781]	E 0.216 [1.394]	F 0.338 [2.180]	G 0.554 [3.574]	H 0.863 [5.567]	J 1.414 [9.123]
15 [1.0]	190 [86]	338 [153]	530 [240]	868 [394]	1352 [613]	2215 [1005]

Series 6000 and Models 6933-6935

Service Recommendations for Resilient Seat/Seal Materials

Seat/Seal Materials ¹	Service Recommendation
Viton® A (-10 to 406°F) [-23 to 208°C]	Acetone, Air, Amyl Alcohol, Aniline, Benzene, Butane, Carbon Disulphide, Carbon Tetrachloride, Dowtherm 'A' and 'E', Ethyl Chloride, Ethylene, Ethylene Glycol, Ethyl Alcohol, Gasoline, Hexane, Hydrogen Sulphide, Isobutyl Alcohol, JP - 4 Fuel, JP - 5 Fuel, Kerosene, Lube Oil, Natural Gas, Naphtha, Nitrogen, Propane, Propylene, Propyl Alcohol, Sulphur Dioxide, Toluene, Trichloroethylene, Turpentine, Water, Xylene
Ethylene Propylene (-70 to 400°F) [-57 to 205°C]	Steam, Hot Water

ASME Section I and VIII, Steam, ASME Section VIII, Air/Gas National Board Certified.
Models 6930, 6933, 6935 ASME Section IV, National Board Certified

Model Number/Order Guide

Model Number Position

1	2	3	4	5	6	7	7	8	9	10	11	12	13	14	15
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Example

6	0	1	0	H	G	M	0	1	—	A	M	0	1	5	0
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Model

6010	6130	6230
6021	6186	6933
6030	6283	6934
6182	6221	6935
6121		

Orifice

D	G
E	H
F	J

Inlet Size

C - 1/2-inch	[12.7]	G - 1 1/2-inch	[38.1]
D - 3/4-inch	[19.0]	H - 2-inch	[50.8]
E - 1-inch	[25.4]	J - 2 1/2-inch	[63.5]
F - 1 1/4-inch	[31.8]		

Seat Material

M - Metal	E - EPR
V - Viton®	

Variation (01 through 99)

- 01 - Plain lever
- 02 - Plain lever with vibration dampener
- 03 - Plain lever with gag
- 06 - BSP Threads

Design Revision

Indicates non-interchangeable revision. Dash (-) if original design.

Valve Service

- A - Steam ASME Section I
- K - Air/Gas ASME Section VIII
- L - Steam ASME Section VIII
- G - Steam ASME Section IV (Models 933, 934, 935 only)
- P - Steam, Non-code
- N - Air, Non-code

Spring Material

M - SS

Set Pressure

0015 - 15 psig [1.0 barg] only for Models 6933, 6934, 6935